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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,609	09/25/2003	John G. Hughes	EM-1818	6785
5179	7590	07/12/2006	EXAMINER	
PEACOCK MYERS, P.C. 201 THIRD STREET, N.W. SUITE 1340 ALBUQUERQUE, NM 87102			PANG, ROGER L	
			ART UNIT	PAPER NUMBER
			3681	

DATE MAILED: 07/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/670,609	<b>Applicant(s)</b> HUGHES, JOHN G.	
	<b>Examiner</b> Roger L. Pang	<b>Art Unit</b> 3681	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 05 June 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,3-11 and 13-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23 and 24 is/are allowed.
- 6) ☒ Claim(s) 1,3-5,8,9,11,13-15,18,19,21 and 22 is/are rejected.
- 7) ☒ Claim(s) 6,7,10,16,17 and 20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

### **DETAILED ACTION**

The following action is in response to the amendment filed for application 10/670,609 on June 5, 2006.

#### ***Drawings***

The drawings were received on May 26, 2005. These drawings are approved.

#### ***Affidavit 37 C.F.R. 1.68***

The Affidavit filed on May 26, 2005 (with the received exhibit) under 37 CFR 1.68 is sufficient to overcome the Predina reference (dating "prior to July 18, 2001).

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 13 is dependent upon canceled claim 12. This should be changed to depend upon claim 11.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 9, 11, 13 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Lee '311. With regard to claims 1 and 11, Lee teaches an active damper for a stabilized mirror 18, said active damper comprising: a tachometer 50 measuring speed of a motor 10 driving the mirror; compensation electronics receiving input from said tachometer and the motor, and said compensation electronics not computing or determining an acceleration of the motor (Fig. 1); and drive electronics providing output to the motor of the stabilized mirror (Fig. 1) and comprising an AC coupled rate loop (Col. 2). With regard to claims 3 and 13, Lee teaches the damper, wherein said electronics provide nearly zero phase shift at lower and upper crossover frequencies of a damper control loop (Col. 2; phase locker). With regard to claims 9, and 19, Lee teaches a damper that is insensitive to changes in temperature (Col. 1; insensitive to all influences leading to hunting).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4-5, 8, 11, 14-15, 18, and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burns'610 in view of Lee '311. With regard to claims 1 and 11, Burns of a stabilized mirror 98; a speed measuring device (Col. 8) measuring speed of a motor 58 driving the mirror, however, Burns lacks the specific teaching of actively damping the stabilized mirror. Lee teaches an active damper for a stabilized mirror 18, said active damper comprising: a tachometer 50 measuring speed of a motor 10 driving the mirror; compensation electronics receiving input from said tachometer and the motor, and said compensation electronics not computing or determining an acceleration of the motor (Fig. 1); and drive electronics providing output to the motor of the stabilized mirror (Fig. 1) and comprising an AC coupled rate loop (Col. 2). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Burns to employ the damping controls in view of Lee in order to provide a servo control system for a direct current motor that is insensitive to those influences that lead to hunting in conventional synchronous motors (Col. 1, lines 51-64). With regard to claims 4 and 14, Burns teaches the damper, wherein said active damper operates on a stabilized mirror 98 in a gimbal 56. With regard to claims 5, 15 and 18-22, Burns teaches the damper, wherein said active damper dampens a belt mode (Col. 8, lines 32-35). With regard to claims 8 and 18, Lee teaches a damper that is insensitive to belt frequency (Col. 1).

***Allowable Subject Matter***

Claim 23-24 are allowed.

Claims 6-7, 10, 16-17, and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

Applicant argues 2 main points:

- 1) Lee does not teach of an AC coupled rate loop
- 2) Burns does not teach of a belt mode.

With regard to argument 1:

Applicant argues that Lee teaches the use of an AC power line and does not teach of an AC coupled “servo” loop. All AC control loops do not have the same parts or controls. Applicant is only claiming damping electronics that comprise “an AC coupled rate loop.” As understood, Lee teaches a control loop for dampening the motor, wherein the motor is coupled to and receives an AC current as the activation signal. Without more details, this configuration covers the broad limitation of the AC coupled rate loop.

With regard to argument 2:

Lee teaches the damping of the motor. Burns teaches of a motor that drives a belt. This is a common form of drive transmission, as applicant has noted. Applicant is only claiming that the active damper is dampening “a belt mode.” The motor control of Lee is dampening the

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motor which drives the belt of Burns. Without more details, this configuration covers the broad limitation of “a belt mode.”

In both arguments, applicant has not claimed any further details that would distinguish the present controls from the prior controls. The limitations of “AC rate loop” and “belt mode” can not be interpreted as the exact controls of applicant’s AC rate loop and belt mode (as disclosed in the specification). It is believed that applicant would not want such a limiting interpretation. Claims 23-24 have limitations that further define the belt mode, and those limitations distinguish the difference between a broad reading of “belt mode” and applicant’s interpretation of dampening the motor by taking into consideration properties of the belt (mode). Applicant’s arguments have been considered, but are not persuasive.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Anger and Salerno have been cited to show similar motor controls with AC loops, and belt modes.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

#### FACSIMILE TRANSMISSION

Submission of your response by facsimile transmission is encouraged. The central facsimile number is (571) 273-8300. Recognizing the fact that reducing cycle time in the processing and examination of patent applications will effectively increase a patent's term, it is to your benefit to submit responses by facsimile transmission whenever permissible. Such submission will place the response directly in our examining group's hands and will eliminate Post Office processing and delivery time as well as the PTO's mail room processing and delivery time. For a complete list of correspondence not permitted by facsimile transmission, see MPEP 502.01. In general, most responses and/or amendments not requiring a fee, as well as those requiring a fee but charging such fee to a deposit account, can be submitted by facsimile transmission. Responses requiring a fee which applicant is paying by check should not be submitting by facsimile transmission separately from the check.



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Responses submitted by facsimile transmission should include a Certificate of Transmission (MPEP 512). The following is an example of the format the certification might take:

I hereby certify that this correspondence is being facsimile transmitted to the Patent and Trademark Office (Fax No. (571) 273-8300) on \_\_\_\_\_ (Date)

Typed or printed name of person signing this certificate:

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(Signature)

If your response is submitted by facsimile transmission, you are hereby reminded that the original should be retained as evidence of authenticity (37 CFR 1.4 and MPEP 502.02). Please do not separately mail the original or another copy unless required by the Patent and Trademark Office. Submission of the original response or a follow-up copy of the response after your response has been transmitted by facsimile will only cause further unnecessary delays in the processing of your application; duplicate responses where fees are charged to a deposit account may result in those fees being charged twice.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roger L. Pang whose telephone number is 571-272-7096. The examiner can normally be reached on 5:30am to 4:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor can be reached on 571-272-7095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'R. Pang', with a stylized flourish extending to the right.

Roger L Pang  
Primary Examiner  
Art Unit 3681

July 7, 2006